Food Safety in Child Care

Participant's Workbook

Clean

Separate

Cook

Chill

Food Safety in Child Care

Participant's Workbook

INSTITUTE OF
child nutrition
RESOURCES • TRAINING • RESEARCH

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Institute of Child Nutrition

The University of Mississippi

The Institute of Child Nutrition was authorized by Congress in 1989 and established in 1990 at The University of Mississippi in Oxford and is operated in collaboration with The University of Southern Mississippi in Hattiesburg. The Institute operates under a grant agreement with the United States Department of Agriculture, Food and Nutrition Service.

PURPOSE

Improve the operation of child nutrition programs through research, education and training, and information dissemination.

VISION

Lead the nation in providing research, education, and resources to promote excellence in child nutrition programs.

MISSION

Provide relevant research-based information and services that advance the continuous improvement of child nutrition programs.

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Background Information

Food Safety in Child Care, formerly *Serving Safe Food in Child Care* has been adapted from *Food Safety in Schools*, formerly, *Serving It Safe*.

Food Safety in Child Care has been developed as a four (4) hour face-to-face food safety training for child care foodservice employees. *Food Safety in Child Care* materials have been adapted using the **USDA Fight Bac ® program**:

- **CLEAN:** *Wash hands and surfaces often!*
- **SEPARATE:** *Don't cross contaminate!*
- **COOK:** *Cook to proper temperature!*
- **CHILL:** *Refrigerate promptly!*

The Participant's Workbook is intended to serve as a guide for following along with the instructor. In addition, it includes handouts, posters, and other resources for referencing food safety information in your child care facility. For additional child care and/or food safety resources, visit www.theicn.org.

Competencies, Knowledge and Skills for Child Care Providers

These are the competencies, knowledge and skills that apply to this training. A full listing can be found on the ICN website.

Functional Area 1: Administration

1.9: Implements safety and sanitation procedures in child care operations.

- Knowledge: Knows local and state regulations regarding proper food safety and sanitation requirements.

Functional Area 4: Health and Safety

4.1: Understands and complies with local, state, and federal regulations and guidelines for safety and sanitation.

- Knowledge: Knows basic health, sanitation, and safety requirements.

4.2: Establishes policies and procedures to create safe work environment practices and environment to prevent and reduce safety risks.

- Knowledge: Knows principles for selecting, storing, using, and maintaining chemical supplies and other hazardous materials.

4.3: Establishes policies and procedures to ensure food is prepared and served in a safe environment that meets food safety and sanitation standards.

- Knowledge: Knows sanitation and food safety regulations.
  Knows acceptable food storage and cleaning techniques.
  Knows principles of foodborne illness prevention.

Source: *Competencies, Knowledge and Skills for Child Care Providers in CACFP Operations* available on the ICN website: www.theicn.org

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Lesson Objectives

Instructions: Use spaces provided under each objective to take notes you may find useful in your child care program.

1. **List good personal hygiene practices that should be followed by employees in child care facilities.**

2. **List the appropriate times for handwashing, and demonstrate proper handwashing procedures.**

3. **Describe how to clean and sanitize food contact surfaces, dishes, and equipment.**

Personal Hygiene

Fact Sheet

Introduction

Good personal hygiene is a basic requirement for implementing a food safety program. All child care employees must follow the Standard Operating Procedures for personal hygiene written for their child care facility. Poor personal hygiene is a risk factor that must be controlled in all types of child care operations.

Application

- Report to work in good health, clean, and dressed in clean clothes.
- Report any illness to your supervisor.
- Change apron when it becomes dirty.
- Wash hands properly, frequently, and at the appropriate times.
- Keep fingernails trimmed, filed, clean, and neat.
- Do not wear artificial fingernails or fingernail polish.
- Wear single-use gloves when working with ready-to-eat food.
- Do not wear jewelry except for a plain ring such as a wedding band.
- Treat and bandage wounds and sores immediately. When hands are bandaged, wear single-use gloves to cover bandage.
- Cover any lesion containing pus with a clean bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove.
- Eat, drink, use tobacco, or chew gum only in designated break areas where food or food contact surfaces may not become contaminated.
- Wear suitable and effective hair restraints while in the kitchen.
- Taste food the correct way:
  - Place a small amount of food into a separate container.
  - Step away from exposed food and food contact surfaces.
  - Use a teaspoon to taste the food.
  - Remove the used teaspoon and container to the dish room.
  - Never reuse a spoon that has already been used for tasting.
  - Wash hands immediately.

Remember, follow state or local health department requirements.

Personal Hygiene

Sample Standard Operating Procedure

PURPOSE: To prevent contamination of food by child care employees.
SCOPE: This procedure applies to child care employees who handle, prepare, or serve food.
KEY WORDS: Cross Contamination, Temperatures, Receiving, Holding, Frozen Goods, Delivery

INSTRUCTIONS:

- Train child care employees on using the procedures in this Standard Operating Procedure (SOP).
- Follow state or local health department requirements.
- Follow the Employee Health Policy (The Employee Health Policy is not included in this resource. Please see www.theicn.org).
- Report to work in good health, clean, and dressed in clean clothes.
- Report any illnesses to your supervisor.
- Change apron when it becomes dirty.
- Wash hands properly, frequently, and at the appropriate times.
- Keep fingernails trimmed, filed, and clean.
- Avoid wearing artificial fingernails and fingernail polish. If artificial fingernails or polish is worn, single-use gloves must be worn when working with food.
- Wear single-use gloves when working with ready-to-eat food.
- Do not wear any jewelry except for a plain ring such as a wedding band.
- Treat and bandage wounds and sores immediately. When hands are bandaged, single-use gloves must be worn.
- Cover a lesion containing pus with a bandage. If the lesion is on a hand or wrist, cover with an impermeable cover such as a finger cot or stall and a single-use glove.
- Eat, drink, use tobacco, or chew gum only in designated break areas where food or food contact surfaces may not become contaminated.
- Taste food the correct way:
  - Place a small amount of food into a separate container.
  - Step away from exposed food and food contact surfaces.
  - Use a teaspoon to taste the food.
  - Remove the used teaspoon and container to the dish room.
  - Never reuse a spoon that has already been used for tasting.
  - Wash hands immediately.
- Wear suitable and effective hair restraints while in the kitchen.

MONITORING:

- A designated child care employee will inspect employees when they report to work to be sure that each employee is following this SOP.
- The designated child care employee will monitor that all child care workers/employees are adhering to the personal hygiene policy during all hours of operation.

CORRECTIVE ACTION:

- Retrain any child care employee found not following the procedures in this SOP.
- Discard affected food.

VERIFICATION AND RECORD KEEPING:

The child care manager will verify that child care employees are following this SOP by visually observing the employees during all hours of operation. The child care manager will complete the Food Safety Checklist daily. Child care employees will record any discarded food on the Damaged or Discarded Product Log. The Food Safety Checklist and Damaged or Discarded Product Logs are to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Handwashing
Fact Sheet

Introduction
Handwashing is the single most important practice in any child care operation. Child care employees can improve the safety of the food they serve by washing their hands frequently, correctly, and at the appropriate times.

Here Are the Facts
Foodborne illnesses are transmitted by food handlers that contaminate food and food contact surfaces. Individuals who handle food when they have a foodborne illness, gastrointestinal illness, infected lesion, or are around someone who is ill can pass along those illnesses. Individuals can simply touch a surface that is contaminated with a bacteria or virus and pass it along to others. Handwashing minimizes the risk of passing along bacteria or viruses that can cause foodborne illnesses.

Application
It is important to know how and when to wash hands and exposed areas of the arms.

How?
- Wet hands and forearms with warm running water at least 100 °F (as measured by a calibrated thermometer) and apply soap.
- Scrub lathered hands and forearms, under fingernails, and between fingers for at least 20 seconds.
- Rinse thoroughly under warm running water.
- Dry hands and forearms thoroughly with single-use paper towels or dry hands using a warm air hand dryer.
- Turn off water using paper towels.
- Use paper towel to open door when exiting the restroom.

When?
- Beginning to work, either at the beginning of shift or after breaks

Before
- Moving from one food preparation area to another
- Putting on or changing single-use gloves

After
- Using the toilet
- Sneezing, coughing, or using a handkerchief or tissue
- Touching hair, face, or body

- Handling raw meats, poultry, or fish
- Smoking, eating, drinking, or chewing gum or tobacco
- Clean up activity such as sweeping, mopping, or wiping counters
- Touching dirty dishes, equipment, or utensils
- Handling trash
- Handling money
- Any time that hands may have become contaminated
- Changing a diaper or assisting a child in using the restroom

Follow U.S. Food and Drug Administration (FDA) recommendations when using hand sanitizers. These recommendations are as follows:

- Use hand sanitizers only after hands have been properly washed and dried.
- Use only hand sanitizers that comply with the *FDA Food Code*. Confirm with the manufacturers that the hand sanitizers used meet these requirements.
- Use hand sanitizers in the manner specified by the manufacturer.

Remember, follow state or local health department requirements.

Washing Hands

Sample Standard Operating Procedure (SOP)

PURPOSE: To prevent foodborne illness by contaminated hands.
SCOPE: This procedure applies to anyone who handles, prepares, and serves food.
KEY WORDS: Handwashing, Cross Contamination

INSTRUCTIONS:

1. Train child care employees on using the procedures in this Standard Operating Procedure (SOP).
2. Follow state or local health department requirements.
3. Post handwashing signs or posters near all handwashing sinks, in food preparation areas, and restrooms. Use a language understood by all child care staff.
4. Use designated handwashing sinks for handwashing only. Do not use food preparation, utility, and dishwashing sinks for handwashing.
5. Provide warm running water, soap, and a way to dry hands. Provide a waste container at each handwashing sink or near the door in restrooms.
6. Keep handwashing sinks accessible anytime employees are present.
7. Wash hands:
   - Before starting work
   - During food preparation
   - When moving from one food preparation area to another
   - Before putting on or changing gloves
   - After using the toilet
   - After sneezing, coughing, or using a handkerchief or tissue
   - After touching hair, face, or body
   - After smoking, eating, drinking, or chewing gum or tobacco
   - After handling raw meats, poultry, or fish
   - After any clean up activity such as sweeping, mopping, or wiping counters
   - After touching dirty dishes, equipment, or utensils
   - After handling trash
   - After handling money
   - After any time the hands may become contaminated
   - After changing a diaper or assisting a child in using the restroom

8. Follow proper handwashing procedures as indicated below:
   - Wet hands and forearms with warm, running water and apply soap.
   - Scrub lathered hands and forearms, under fingernails, and between fingers with a total wash time of at least 20 seconds.
   - Rinse hands and forearms with warm running water.
   - Dry hands and forearms thoroughly with single-use paper towels or dry hands using a warm hand dryer.
   - Turn off water using paper towels.
   - Use paper towel to open door when exiting the restroom.

CORRECTIVE ACTION:

MONITORING:

1. A designated employee will visually observe the handwashing practices of the child care staff during all hours of operation.
2. The designated employee will visually observe that handwashing sinks are properly supplied during all hours of operation.

CORRECTIVE ACTION:

1. Retrain any child care employees found not following the procedures in this SOP.
2. Ask employees who are observed not washing their hands at the appropriate times or using the proper procedure to wash their hands immediately.
3. Retrain employees to ensure proper handwashing procedure.

VERIFICATION AND RECORD KEEPING:

The child care manager will complete the Food Safety Checklist daily to indicate that monitoring is being conducted as specified. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Activity: How to Wash Hands

Instructions: As you watch the video, list the steps for proper handwashing. The first one has been completed for you.

How to Wash Hands

- Wet hands and forearms with running water of at least 100 °F (as measured by a calibrated thermometer) and apply soap.

Remember to Wash Hands with Soap and Warm Running Water When…

- Arriving to work.
- Entering a food preparation area.
- Preparing and serving meals.
- Preparing meat, poultry, and fish.
- Feeding an infant.
- Eating or drinking.
- Changing diapers or cleaning up a child who has used the toilet.
- Using the bathroom.
- Helping in the bathroom.
- Sneezing, coughing, and wiping runny noses.
- Coming in contact with body fluids.
- Leaving for the day.

Drown a Germ…
Wash Your Hands!

- Use soap and warm running water.
- Lather hands with soap up to the elbows.
- Vigorously rub hands together for 20 seconds.
- Wash backs of hands, wrists, between fingers, and under fingernails.
- Use fingernail brush as specified by local health regulation.
- Rinse hands thoroughly.
- Turn off running water with a paper towel, not bare hands.
- Dry hands with paper towel or air dryer.

Cleaning and Sanitizing

Fact Sheet

Introduction

Cleaning and sanitizing is important for maintaining safe environments in child care settings. Child care employees who follow proper cleaning and sanitizing practices reduce the risk of cross contamination that can lead to foodborne illnesses.

Application

Clean and sanitize work surfaces, equipment, and other food contact surfaces using proper procedures.

- Follow state and local health department requirements.
- Follow manufacturer's instructions regarding the use and cleaning of equipment specified on the manufacturer's label.
- Follow manufacturer's instructions regarding the use of chemicals for cleaning and sanitizing food contact surfaces.
- **Refer to the Safety Data Sheets (SDSs) provided by the manufacturer if you have questions about the use of specific chemicals. Effective June 1, 2015 the SDSs must be in a uniform format to include all associated information such as hazards regarding the chemical and first aid measures to be in a uniform format.**
- Wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment:
  - Before each use.
  - Between uses when preparing different types of raw animal foods such as eggs, fish, meat, and poultry.
  - Between uses when preparing ready-to-eat foods and raw animal foods such as eggs, fish, meat, and poultry.
  - Any time contamination occurs or is suspected.
- Wash, rinse, and sanitize food contact surfaces using the following procedures:
  - Wash surface with detergent solution to clean.
  - Rinse surface with clean water to remove debris and detergent.
  - Sanitize surface using a sanitizing solution mixed at the concentration specified on the manufacturer's label or in water at 171 °F for 30 seconds.
  - Allow items to air dry.

Take corrective action to make sure that cleaning and sanitizing is done properly.

- Wash, rinse, and sanitize dirty food contact surfaces.
- Sanitize food contact surfaces if it cannot be determined that they have been sanitized properly.
- Discard food that comes in contact with food contact surfaces that have not been sanitized properly.

Remember, follow state or local health department requirements.

Cleaning and Sanitizing Food Contact Surfaces

Sample Standard Operating Procedure

PURPOSE: To prevent foodborne illness by ensuring that all food contact surfaces are properly cleaned and sanitized.
SCOPE: This procedure applies to child care employees involved in cleaning and sanitizing food contact surfaces.
KEY WORDS: Food Contact Surface, Cleaning, Sanitizing

INSTRUCTIONS:

1. Train child care employees on using the procedures in this Standard Operating Procedure (SOP).
2. Follow state or local health department requirements.
3. Follow manufacturer's instructions regarding the use and maintenance of equipment and use of chemicals for cleaning and sanitizing food contact surfaces. Refer to *Storing and Using Poisonous or Toxic Chemicals SOP*.
4. If state or local requirements are based on the *FDA Food Code*, wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment:
   - Before each use.
   - Between uses when preparing different types of raw animal foods, such as eggs, fish, meat, and poultry.
   - Between uses when preparing ready-to-eat foods and raw animal foods, such as eggs, fish, meat, and poultry.
   - Any time contamination occurs or is suspected.
5. Wash, rinse, and sanitize food contact surfaces of sinks, tables, equipment, utensils, thermometers, carts, and equipment using the following procedure:
   - Wash surface with detergent solution.
   - Rinse surface with clean water.
   - Sanitize surface using a sanitizing solution mixed at a concentration specified on the manufacturer's label.
   - Allow to air dry.
6. If a three-compartment sink is used, set up and use the sink in the following manner:
   - In the first compartment, wash with a clean detergent solution at or above 110 °F or at the temperature specified by the detergent manufacturer.
   - In the second compartment, rinse with clean water.
   - In the third compartment, sanitize with a sanitizing solution mixed at a concentration specified on the manufacturer's label or by immersing in hot water at or above 171 °F for 30 seconds. Test the chemical sanitizer concentration by using an appropriate test kit.

7. If a dishmachine is used:
   - Check with the dishmachine manufacturer to verify that the information on the data plate is correct.
   - Refer to the information on the data plate for determining wash, rinse, and sanitization (final) rinse temperatures, sanitizing solution concentrations, and water pressures, if applicable.
   - Follow manufacturer's instructions for use.
   - Ensure that food contact surfaces reach a surface temperature of 160 °F or above if using hot water to sanitize.

MONITORING:

1. Child care employees will, during all hours of operation, visually and physically inspect food contact surfaces of equipment and utensils to ensure that the surfaces are clean.
2. In a three-compartment sink, on a daily basis:
   - Visually monitor that the water in each compartment is clean.
   - Take the water temperature in the first compartment of the sink by using a calibrated thermometer.
   - If using chemicals to sanitize, test the sanitizer concentration by using the appropriate test kit for the chemical.
   - If using hot water to sanitize, use a calibrated thermometer to measure the water temperature. Refer to *Using Thermometers in Child Care* Fact Sheet and *Calibrating Thermometers in Child Care* Fact Sheet in Lesson 3.
3. In a dishmachine, on a daily basis:
   - Visually monitor that the water and the interior parts of the machine are clean and free of debris.
   - Continually monitor the temperature and pressure gauges, if applicable, to ensure that the machine is operating according to the data plate.
   - For a hot water sanitizing dishmachine, ensure that food contact surfaces are reaching the appropriate temperature of 160 °F or above. Test by placing a piece of heat sensitive tape on a smallware item or a irreversible registering temperature on a rack and running the item or rack through the dishmachine.
   - For chemical sanitizing dishmachine, check the sanitizer concentration on a recently washed food-contact surface using an appropriate test kit.

CORRECTIVE ACTION:

1. Retrain any child care employee found not following the procedures in this SOP.
2. Wash, rinse, and sanitize dirty food contact surfaces. Sanitize food contact surfaces if it is discovered that the surfaces were not properly sanitized. Discard food that comes in contact with food contact surfaces that have not been sanitized properly.

3. In a three-compartment sink:
   - Drain and refill compartments periodically and as needed to keep the water clean.
   - Adjust the water temperature by adding hot water until the desired temperature is reached.
   - Add more sanitizer or water, as appropriate, until the proper concentration is achieved.
4. In a dishmachine:
   - Drain and refill the machine periodically and as needed to keep the water clean.
   - Contact the appropriate individual(s) to have the machine repaired if the machine is not reaching the proper wash temperature indicated on the data plate.
   - For a hot water sanitizing dishmachine, retest by running the machine again. If the appropriate surface temperature is still not achieved on the second run, contact the appropriate individual(s) to have the machine repaired. Wash, rinse, and sanitize in the three-compartment sink until the machine is repaired or use disposable single service/single-use items if a three-compartment sink is not available.
   - For a chemical sanitizing dishmachine, check the level of sanitizer remaining in the bulk the container. Fill, if needed. "Prime" the machine according to the manufacturer's instructions to ensure that the sanitizer is being pumped through the machine. Retest. If the proper sanitizer concentration level is not achieved, stop using the machine and contact the appropriate individual(s) to have it repaired. Use a three-compartment sink to wash, rinse, and sanitize until the machine is repaired.

VERIFICATION AND RECORD KEEPING:
Foodservice employees will record monitoring activities and any corrective action taken on the Food Contact Surfaces Cleaning and Sanitizing Log. The child care manager will verify that child care employees have taken the required temperatures and tested the sanitizer concentration by visually monitoring child care employees during the shift and reviewing, initialing, and dating the Food Contact Surfaces Cleaning and Sanitizing Log. The log will be kept on file for at least 1 year. The child care manager will complete the Food Safety Checklist daily. The Food Safety Checklist is to be kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Storing and Using Poisonous or Toxic Chemicals

Sample Standard Operating Procedure

PURPOSE: To prevent foodborne illness by chemical contamination.
SCOPE: This procedure applies to child care employees who use chemicals in the kitchen.
KEY WORDS: Chemicals, Chemical Contamination, Safety Data Sheets (SDSs).

INSTRUCTIONS:

1. Train child care employees on using the procedure in this SOP.
2. Follow state or local health department requirements.
3. Designate a location for storing the Safety Data Sheets (SDSs).
4. Follow manufacturer's directions for specific mixing, storing, and first aid instructions on the chemical containers in the SDSs.
5. Label and date all poisonous or toxic chemicals with the common name of the substance.
6. Store all chemicals in a designated secured area away from food and food contact surfaces using spacing or partitioning.
7. Limit access to chemicals by use of locks, seals, or key cards.
8. Maintain an inventory of chemicals.
9. Store only chemicals that are necessary to the operation and maintenance of the kitchen.
10. Mix, test, and use sanitizing solutions as recommended by the manufacturer and the state or local health department.
11. Use the appropriate chemical test kit to measure the concentration of sanitizer each time a new batch of sanitizer is mixed.
12. Do not use chemical containers for storing food or water.
13. Use only hand sanitizers that comply with the *FDA Food Code*.
14. Label and store first aid supplies in a container that is located away from food or food contact surfaces.
15. Label and store medicines for employees use in a designated area and away from food contact surfaces. Do not store medicines in food storage areas.
16. Store refrigerated medicines in a covered, leak proof container where they are unaccessible to children and cannot contaminate food.

MONITORING:
Child care employees and child care managers will visually observe that chemicals are being stored, labeled, and used properly during all hours of operation.

CORRECTIVE ACTION:
Retrain any child care employee found not following the procedures in this SOP.
Discard any food contaminated by chemicals.
Label and properly store any unlabeled or misplaced chemicals.

VERIFICATION AND RECORD KEEPING:
The child care manager will complete the Food Safety Checklist daily to indicate that monitoring is completed. Child care employees will record the name of the contaminated food, date, time, and the reason why the food was discarded on the Damaged and Discarded Product Log. The child care manager will verify that appropriate corrective actions are being taken by reviewing, initialing, and dating the Damaged and Discarded Product Log each day. The Food Safety Checklist and Damaged and Discarded Product Logs are kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Activity: Steps in Cleaning and Sanitizing for Manual Dishwashing

Instructions:

Use the *Cleaning and Sanitizing* Fact Sheet steps as assigned.

SINK 1	**Step 1:**
SINK 2	**Step 2:**
SINK 3	**Step 3:**

Manual Dishwashing

Fact Sheet

Introduction

Manual dishwashing is completed in child care operations to clean and sanitize dishes, smallwares, and utensils when there is not a dishmachine. Child care employees must use proper dishwashing procedures and monitor to ensure that sanitizing is completed.

Here Are the Facts

Dishwashing is a three-step process: wash, rinse, and sanitize. Sanitizing can be done with the use of either hot water at the proper temperature or chemical sanitizers at the appropriate concentrations. If sanitizing is not done appropriately, cross contamination can occur.

Application

Clean and sanitize dishes, smallwares, and utensils using proper dishwashing procedures.

- Follow state and local health department requirements.
- Follow manufacturer's instructions regarding the use and cleaning of equipment.
- Follow manufacturer's instructions regarding use of chemicals for cleaning and sanitizing.
- Refer to the Safety Data Sheets (SDSs) provided by the manufacturer if you have questions about use of specific chemicals.
- Set up and use the three-compartment sink in the following manner:
  - In the first compartment, wash with a clean detergent solution at or above 110 °F or at the temperature specified by the detergent manufacturer.
  - In the second compartment, rinse with clean water.
  - In the third compartment, sanitize with a sanitizing solution mixed at a concentration specified on the manufacturer's label or by immersing in hot water at or above 171 °F for 30 seconds. Test the chemical sanitizer concentration using an appropriate test strip.

Reminder: Always wash hands before handling clean and sanitized dishes, equipment, and utensils. NEVER load dirty dishes and then handle clean dishes without washing hands.

Monitor cleaning and sanitizing procedures.

- Inspect food contact surfaces of equipment and utensils visually to ensure that surfaces are clean.
- Monitor use of three-compartment sink on a daily basis.
  - Monitor the water visually in each sink to make sure it is clean and free of food debris.
  - Take the water temperature in the first compartment of the sink by using a calibrated thermometer.
  - Test sanitizer concentration in the third sink using appropriate test strips if chemical sanitizing method is used.
  - Test temperature of water in the third sink with a calibrated thermometer if hot water sanitizing method is used.

Take corrective action to make sure that cleaning and sanitizing is done properly.

- Drain and refill compartments periodically and as needed to keep the water clean and free of debris.
- Adjust the water temperature by adding hot water until the desired temperature is reached.
- Add more sanitizer or water, as appropriate, until the proper sanitizing solution concentration is achieved.

Remember, follow state or local health department requirements.

Mechanical Dishwashing

Fact Sheet

Introduction

Dishmachines are often used in child care operations to clean and sanitize dishes, smallwares, and utensils. Child care employees must use the dishmachine properly and monitor that the machine is working properly to ensure proper sanitation.

Here Are the Facts

Dishwashing is a three-step process: wash, rinse, and sanitize. Sanitizing can be done with the use of either hot water at the proper temperature or chemical sanitizers at the appropriate concentrations. If sanitizing is not done appropriately, cross contamination can occur.

Application

Clean and sanitize dishes, smallwares, and utensils using proper dishwashing procedures.

- Follow state and local health department requirements.
- Follow manufacturer's instructions regarding use of chemicals for cleaning and sanitizing.
- Refer to the Safety Data Sheets (SDSs) provided by the manufacturer if you have questions about use of specific chemicals.
- Use the dishmachine correctly.
  - Check with the dishmachine manufacturer to verify that the information on the data plate is correct. Refer to information on the data plate to determine wash, rinse, sanitizing (final) rinse temperatures; sanitizing solution concentrations; and water pressures, as applicable.

Reminder: Always wash hands before handling clean and sanitized dishes, equipment, and utensils. NEVER load dirty dishes and then handle clean dishes without washing hands.

Monitor cleaning and sanitizing of dishmachines.

- Inspect food contact surfaces of equipment and utensils visually to ensure that surfaces are clean.
- Monitor use of dishmachine on a daily basis:
  - Monitor visually to see if the water and interior parts of the dishmachine are clean and free of debris.
  - Monitor temperature and pressure gauges to ensure that the machine is operating according to recommendations on the data plate.

- Ensure that food contact surfaces reach a surface temperature of 160 °F or above if using hot water to sanitize. Check the temperature gauge on the machine, but also do a secondary check using a heat sensitive tape or irreversible registering temperature indicator to ensure that appropriate temperatures for sanitizing are reached.
- Check the sanitizer concentration of the rinse water in chemical dishmachines using appropriate test strips.

Take corrective action to make sure cleaning and sanitizing are done properly. Follow your Standard Operating Procedure.

Remember, follow state or local health department requirements.

Dishmachine Cleaning and Sanitizing Log

Instructions: Record time, temperatures, or sanitizer concentration as appropriate and any corrective action taken on this form. The child care manager will verify that child care workers have taken the required information by visually monitoring child care employees and preparation procedures during the shift and by reviewing, initialing, and dating this log daily. Maintain this log for a minimum of 1 year.

Date(D) and Time(T)	Wash Temp	Rinse Temp	Final Rinse (Sanitation) Temperature	Heat Sensitive Tape (place here)	Sanitizer Concentration (in ppm)	Corrective Action	Employee Initials	Verified By/Date
D: **T:**								
D: **T:**								
D: **T:**								
D: **T:**								
D: **T:**								
D: **T:**								
D: **T:**								

Lesson 2: Separate

Lesson Objectives 37

Using Suitable Utensils When Handling Ready-to-Eat Foods Fact Sheet 39

Preventing Contamination During Food Preparation Fact Sheet 41

Preventing Contamination During Food Storage Fact Sheet 43

Storing and Using Chemicals Fact Sheet 45

Lesson Objectives

Instructions: Use spaces provided under each objective to take notes you may find useful in your child care program.

1. **Describe ways food can become contaminated in a child care facility.**

2. **List methods to avoid cross contamination, chemical contamination, and cross contact.**

3. **Describe methods to safely receive food.**

4. Describe appropriate storage techniques for food and chemicals.

_____

_____

_____

_____

_____

Using Suitable Utensils When Handling Ready-to-Eat Foods

Fact Sheet

Introduction

Ready-to-eat foods will not be cooked further before serving; it is important to handle them properly. Child care employees must follow appropriate food handling techniques to ensure that these foods do not become contaminated during preparation, storage, holding, and service to customers.

Here Are the Facts

Since ready-to-eat foods will not have further heat treatment to kill microorganisms, special care is needed to decrease opportunities for cross contamination. Use of suitable utensils when handling ready-to-eat foods is one important way to ensure safety.

Application

Use suitable utensils when handling ready-to-eat foods.

- Wash hands and exposed parts of the arms properly before preparing, handling food, or at any time the hands may become contaminated.
- Use proper procedures for glove use, including washing hands before putting on gloves.
- Use utensils that are clean and sanitized when working with ready-to-eat food. Examples include the following:
  - Single-use gloves,
  - Deli tissue,
  - Foil wrap,
  - Tongs, spoodles, spoons, and spatulas.

Monitor use of utensils for handling ready-to-eat foods.

- Conduct visual inspections to make sure the guidelines for use of utensils are followed.
- Check to make sure hands are washed at appropriate times.
- Check to make sure utensils and gloves are changed at appropriate times.

Take corrective actions to ensure appropriate use of utensils when handling ready-to-eat foods.

- Replace contaminated utensils with clean and sanitized utensils.
- Discard ready-to-eat food that has been touched with bare hands.
- Record corrective actions taken.

Remember, follow state or local health department requirements.

Preventing Contamination During Food Preparation

Fact Sheet

Introduction

Cross contamination is the transfer of bacteria or viruses from hand-to-food, food-to-food, or equipment and food contact surface-to-food. Chemical contamination or hazard, is when chemicals unintentionally come in contact with food. Cross contact occurs when an allergen is accidentally transferred from a food containing an allergen to a food or surface that does not contain the allergen. All three – cross contamination, chemical contamination/hazard, and cross contact are types of contamination that can happen in a child care center. Child care employees can minimize or eliminate contamination by following the Standard Operating Procedures in their child care food safety program.

Here Are the Facts

One of the most common causes of foodborne illness is cross contamination. Cross contamination may occur when 1) a sick employee handles food, 2) raw food contaminates a ready-to-eat food, 3) food contact surfaces are not cleaned and sanitized properly and come in contact with a ready-to-eat food, or 4) equipment is used for multiple foods without cleaning and sanitizing between preparing foods. Chemical contamination may occur if chemicals are improperly handled or if manufacturer instructions are not followed. Cross contact may occur if proper cleaning and food handling procedures are not followed with preparing allergen-free foods.

Application

There are many practices in the Standard Operating Procedures that child care employees can follow to minimize or eliminate contamination during food preparation.

Hand-to-Food Cross Contamination

- Wash hands properly, frequently, and at appropriate times.
- Wash hands before putting on single-use gloves and change gloves frequently.
- Wear gloves when handling ready-to-eat foods.
- Cover cuts, sores, and wounds with a clean bandage and a single-use glove.
- Keep fingernails short, unpolished, and clean.
- Do not wear jewelry, except for a plain band such as a wedding ring.
- Do not allow sick employees to work.

Food-to-Food Cross Contamination

- Separate raw animal foods from ready-to-eat foods during receiving, storage, and preparation.

- Separate different types of raw animal foods, such as eggs, fish, meat, and poultry, from each other except when combined in recipes.
- Separate unwashed fruits and vegetables from washed fruits and vegetables and other ready-to-eat foods.
- Place food in covered containers or packages, except during cooling. Store in the refrigerator or cooler.

Equipment/Food Contact Surface-to-Food Cross Contamination

- Use only dry, cleaned, and sanitized equipment and utensils for food preparation.
- Clean and sanitize work tables, equipment, and cutting boards after each use and before beginning a new task. For example, after slicing ham, the slicer should be cleaned and sanitized before slicing turkey.
- Clean and sanitize surfaces that are handled often, such as refrigerator and freezer handles.
- Maintain a fresh bucket of cleaning solution and a fresh bucket of sanitizing solution in the work area so that cleaning and sanitizing can be done easily.

Chemical Contamination/Hazard

- Store chemicals away from food. Keep chemicals in a locked storage area with access only to authorized employees.
- Use Safety Data Sheets (SDSs) provided by the manufacturer to ensure chemicals are stored and used properly.
- Check the concentration of the sanitizing solution with a sanitizing test kit to make sure it is at appropriate levels to sanitize.
- Store chemicals in original containers, never in containers that once stored food.
- Teach employees how to use chemicals.

Cross Contact

- Use color coded utensils, equipment, etc., or designate equipment and utensils for foods that are allergen-free.
- Isolate ingredients that are allergen-free in storage and preparation.
- Prepare allergen-free foods first, wrap and label them (with name, color code, or stickers), and place them on the top storage shelf until service.
- Follow proper handwashing procedures, and wash hands between handling allergen-free foods and foods which contain allergens.
- Properly clean and sanitize all utensils, equipment, and surfaces before preparing allergen-free foods.

Remember, follow state or local health department requirements.

Preventing Contamination During Food Storage

Fact Sheet

Introduction

Cross contamination is the transfer of bacteria or viruses from hand-to-food, food-to-food, or equipment and food contact surface-to-food. Chemical contamination, or hazard, is when chemicals unintentionally come in contact with food. Cross contact occurs when an allergen is accidentally transferred from a food containing an allergen to a food or surface that does not contain the allergen. All three – cross contamination, chemical contamination/hazard, and cross contact are types of contamination that can happen in a child care center. Child care employees can minimize or eliminate contamination by following the Standard Operating Procedures in their child care food safety program.

Here Are the Facts

One of the most common causes of foodborne illness is cross contamination. Cross contamination may occur when a sick employee handles food, raw food contaminates a ready-to-eat food, food contact surfaces that are not cleaned and sanitized properly come in contact with a ready-to-eat food, or equipment is used for multiple foods without cleaning and sanitizing between preparing foods. Chemical contamination may occur if chemicals are improperly handled or if manufacturer instructions are not followed. Cross contact may occur if proper cleaning and food handling procedures are not followed while preparing allergen-free foods. Proper food storage also is important in preventing contamination. Storage areas include the refrigerator, freezer, and dry storage.

Application

There are many practices in the Standard Operating Procedures that child care employees can follow to minimize or eliminate contamination during food storage.

Hand-to-Food Cross Contamination

- Wash hands properly, frequently, and at appropriate times.

Food-to-Food Cross Contamination

- Separate raw animal foods such as eggs, fish, meat, and poultry from ready-to-eat foods such as lettuce, cut melons, and lunch meats during storage.
- Separate different types of raw animal foods such as eggs, fish, meat, and poultry from each other except when combined in recipes.
- Store raw animal foods in refrigerators or walk-in coolers by placing the raw animal foods on shelves in the following order of cooking temperature: whole beef or pork highest up, then raw ground meats on the shelf below, and then poultry on the bottom shelf.

- Separate unwashed fruits and vegetables from washed fruits and vegetables and other ready-to-eat foods.
- Place food in covered containers or packages except during cooling and store in the refrigerator or cooler.
- Designate an upper shelf of a refrigerator or walk-in cooler as a "cooling" shelf. Uncover containers of food during the initial quick cool-down phase to facilitate cooling.
- Store damaged goods in a separate location.

Equipment/Food Contact Surface-to-Food Cross Contamination

- Use only dry, cleaned, and sanitized containers for food storage.
- Clean and sanitize shelves in the storage unit on a routine basis.
- Cover all foods well and label and date them.

Chemical Contamination/Hazard

- Store all chemicals away from food products, preferably in a separate storeroom.
- Keep chemicals in a locked storage area with access only to authorized employees.

Cross Contact

- Have a designated storage area for allergen-free foods, preferably on the top shelf to prevent foods containing allergens from spilling into them.
- If using color coding utensils, equipment, etc., or designate equipment and utensils for foods that are allergen-free, store them in a closed container to prevent allergens from coming into contact with them.
- Store allergen-free food that has been prepared on a designated shelf away from where allergen-containing foods can spill into it. Wrap and label the container.

Remember, follow state or local health department requirements.

Storing and Using Chemicals

Fact Sheet

Introduction

Chemicals are used in child care operations for a variety of cleaning and sanitizing functions. Child care employees must use and store these chemicals properly to minimize the risk of food contamination.

Here Are the Facts

Chemical hazards are one of the three major types of hazards in a child care operation. A foodborne illness can result from a harmful chemical getting into a food that is eaten by a person.

Application

Follow safe practices for handling chemicals.

- Wash hands properly, frequently, and at appropriate times.

Chemical-to-Food Cross Contamination

- Know where the Safety Data Sheets (SDSs) are stored for every chemical that you handle. The SDSs are provided by the manufacturer. The SDSs provide information on how to use the chemical and what to do if someone is accidentally exposed to inappropriate quantities of the chemical.
- Follow the manufacturer's directions for mixing, storing, and first aid instructions on the chemical containers or on the SDSs.
- Store all chemicals in a designated secured area away from food and food contact surfaces using spacing or partitioning.
  - Limit access to chemicals by use of locks, seals, or key cards.
  - Maintain a perpetual inventory of chemicals.
- Store only chemicals that are necessary to the operation and maintenance of the kitchen.
- Mix, test, and use sanitizing solutions as recommended by the manufacturer and the state or local health department.
- Use the appropriate chemical test kit to measure the concentration of sanitizer each time a new batch is mixed.
- Use chemical containers only for storing the original chemical that came in the container and not for storing any food or water.
- Use only hand sanitizers that comply with the *FDA Food Code*. Confirm with the manufacturer that a hand sanitizer complies with the *FDA Food Code* before using.

- Label and store first aid supplies in a container that is located away from food or food contact surfaces.
- Label and store medicines for employees in a designated area and away from food contact surfaces. Do not store medicines in food storage areas.
- Store refrigerated medicines in a covered, leak proof container where they are not accessible to children and cannot contaminate food.

Take corrective action if chemicals contaminate food or food contact surfaces.

- Discard any food that may have been contaminated by chemicals.
- Label and properly store any unlabeled or misplaced chemicals.
- Discard any chemical that cannot be identified.

Remember, follow state or local health department requirements.

Lesson 3: Cook

Lesson Objectives 49

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Different Types of Thermometers 53

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Calibrating Thermometers in Child Care Fact Sheet 59

Thermometer Calibration Log 61

Temperature Danger Zone Fact Sheet 63

Activity: *Temperature Danger Zone "Keep Foods Out"* 65

Temperature Danger Zone Poster 66

Cooking Foods Fact Sheet 67

Reheating Foods Fact Sheet 69

Lesson Objectives

Instructions: Use spaces provided under each objective to take notes you may find useful in your child care program.

1. **Demonstrate how to use a food thermometer.**

2. **Demonstrate how to calibrate a thermometer.**

3. **Define the temperature danger zone for food.**

4. Discuss appropriate internal cooking temperatures for food.

5. Describe the process for reheating food.

Using Thermometers in Child Care

Fact Sheet

Introduction

Thermometers are essential tools in any child care operation and are necessary to implement a food safety program. Child care employees need to know how to use thermometers to check food temperatures.

Here Are the Facts

Thermometers are designed for different uses and different temperature ranges. Food thermometers need to measure temperatures between 0 °F and 220 °F. Thermometers needed to check food temperatures include the following:

- Thermistor or thermocouple with a thin probe
- Bimetallic stemmed thermometer
- Oven-safe bimetallic thermometers
- Equipment thermometers

Application

How to Use Thermometers

- Clean and sanitize thermometers before each use.
- Wash the stem of the thermometer, and sanitize by dipping stem into sanitizing solution or wiping with a sanitizing wipe. Allow to air dry.
- Store food thermometers in an area that is clean and where they are not subject to contamination.
- Check and change batteries in digital thermometers on a routine basis.

How to Use Thermometers

Measure the internal temperature of food by inserting the stem of the thermometer into the thickest part of the food being sure to cover the sensor. Wait for the dial or digital indicator to stabilize at desired temperature for about 15 seconds. Take temperatures based on the type of food.

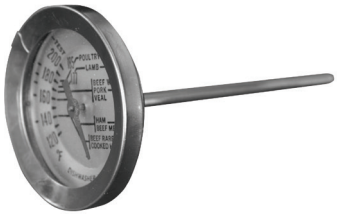
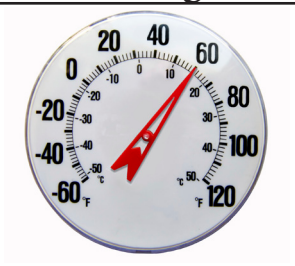
- Meats
  - Roasts: insert thermometer in the middle of the roast avoiding any bones.
  - Poultry: insert thermometer at the thickest part avoiding any bones.
  - Casseroles: check temperature in the center and at several other points.
  - Thin meats, such as hamburger patties: use a thermistor or probe that is tip sensitive to check temperatures.
- Milk: open a carton and insert thermometer at least 2 inches into the milk.
- Packaged foods: insert the thermometer between two packages without puncturing the packages.

Recording Temperatures

When food temperatures are taken, they should be recorded on the production record or on a separate cooking and reheating log.

Remember, follow state or local health department requirements.

Different Types of Thermometers

Bimetallic	Hot Holding
	
Infrared	**Dial Oven-Safe**
	
Dial Instant-Read Bimetallic Stemmed	**Digital Instant Thermistor**
	
Disposable Temperature Indicator T-Sticks	**Refrigerator and Freezer Thermometers**
	
Thermocouple	**Storage**
	

Activity: Using Thermometers in Child Care

Instructions: Fill in the blanks with the correct answers as they are discussed.

1. What are the five common types of thermometers?

   _____ , _____ , _____ ,

   _____ , _____

2. What cooking temperatures were recommended for the following foods:

   Ready-to-eat foods _____

   Whole pork _____

   Ground beef _____

   Poultry _____

   Soups/Casseroles _____

   Reheated foods _____

3. When measuring temperatures of roasts, it is important to insert the thermometer in the _____ of the roast and to avoid putting the thermometer next to _____ , _____ , or _____ .

4. It is important to document temperatures. When you do, you should include the _____ , _____ , _____ , and _____.

5. Thermometers should be properly _____ , _____ , and _____.

Activity: Calibrating Thermometers in Child Care Using the Ice Water Method

Instructions: Fill in the blanks with the correct answers as they are provided during the video.

What tools or supplies did you observe being used?

1. _____

2. _____

3. _____

4. _____

5. _____

What steps were used to calibrate the thermometer using the ice water method?

1. Fill a _____ with crushed ice.

2. Add _____ to within 1 inch of the top of container.

3. Stir _____.

4. Let sit for _____minute(s).

5. Place _____ in container so that the _____ is completely submerged.

6. Let the thermometer stay in the ice water mixture for _____ seconds.

7. If needed, calibrate the thermometer by _____ until the thermometer reads 32 °F.

Calibrating Thermometers in Child Care

Fact Sheet

Introduction

Food temperatures must be checked throughout the food preparation process, and the thermometers used must be accurate. Child care employees are responsible for checking the accuracy of thermometers and calibrating them if they are not accurate.

Here Are the Facts

Thermometers that are not accurate will give misleading information. For example, if you use a thermometer that registers 10 °F higher than the actual temperature, you would cook ground beef to 150 °F rather than 160 °F. If the thermometer registers too low, you could easily overcook the food.

Application

It is important for child care employees to know when and how to calibrate bimetallic stemmed and digital (that can be calibrated) thermometers. Follow state or local health department requirements.

How to Take Temperatures

When?

Thermometers are sensitive and can lose calibration. It is important to calibrate them:

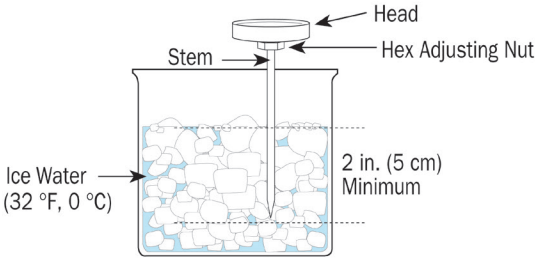
- Daily
- When they are dropped
- More often if specified by local policy

How?

There are two methods that can be used to calibrate thermometers.

Ice Water Method

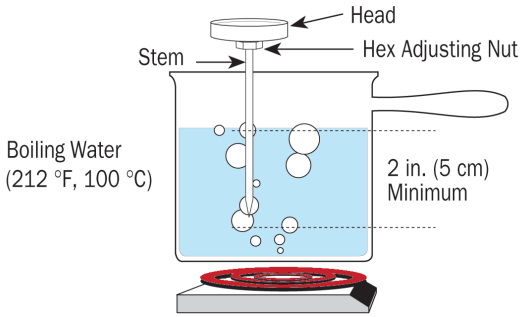
1. Fill a 2-quart measure with ice.
2. Add water to within 1 inch of top of container.
3. Stir mixture well.
4. Let sit for one minute.
5. Place thermometer in container so that the sensing area of stem or probe is completely submerged over the dimple.
6. Keep the thermometer from touching sides or bottom of container.
7. Let thermometer stay in ice water for 30 seconds or until the dial stops moving.



8. Place the calibration tool on the hex adjusting nut and rotate until the dial reads 32 °F, while in ice water. Some digital stemmed thermometers (thermistors) and thermocouples have a reset button that should be pushed.
9. Repeat process with each thermometer.

Boiling Water Method

1. Fill a saucepan or stockpot with water.
2. Bring water to a rolling boil.
3. Place thermometer in the container so that the sensing area of the stem or probe is completely submerged over the dimple.
4. Do NOT let the thermometer stem/probe touch sides or bottom of container.
5. Let thermometer stay in the boiling water for 30 seconds or until the dial stops moving.
6. Place the calibration tool on the hex adjusting nut and rotate until the thermometer dial reads 212 °F, while in boiling water. Some digital thermometers (thermistors) and thermocouples have a reset button that should be pushed.
7. Repeat process with each thermometer.



NOTE: The boiling point of water is about 1 °F lower for every 550 feet above sea level. If you are in high altitude areas, the temperature for calibration should be adjusted. For example, if you were at 1,100 feet above sea level, the boiling point of water would be 210 °F.

Thermometer Calibration Log

Date	Thermometer Being Calibrated	Temperature Reading	Corrective Action	Initials	Manager's Initials/Date

Temperature Danger Zone

Fact Sheet

Introduction

The temperature danger zone is the temperature range in which microorganisms grow quickly and sometimes reach levels that can make people ill. Child care employees must maintain appropriate temperatures throughout the food process, from receiving until the food is served to children. Temperature control is a key component of a child care food safety program.

Here Are the Facts

Food Safety Inspection Service (FSIS) identifies the temperature danger zone as 40 °F – 140 °F. The saying "Keep hot foods hot and cold foods cold" is based on the importance of keeping food out of the temperature danger zone. In other words, cold foods must be kept at 40 °F or below, and hot foods must be kept at 140 °F or above. It is important to limit the amount of time that foods served cold or hot are in the range of 40 °F – 140 °F.

Application

- Cook, hold, serve, and chill foods at proper temperatures.
- Use a clean, sanitized, and calibrated thermometer to take food temperatures.
- Record temperatures.
- Maintain temperature logs.

Maintain temperatures at each operational step in the flow of food from receiving to storing.

- **Receiving:** Receive refrigerated foods at 40 °F or below, and frozen foods at 32 °F or below.
- **Storing:** Store refrigerated foods at 40 °F or below, and store frozen foods at 0 °F or below.
- **Preparing:** Limit the time that food is in the temperature danger zone during preparation. Batch cooking is the best way to limit time.
- **Cooking:** Cook food to the appropriate internal temperature for that item.
- **Holding:** Hold cold foods at 40 °F or below and hot foods at 140 °F or above.
- **Serving:** Serve cold food cold and hot food hot. Keep cold food below 40 °F and hot food above 140 °F.
- **Cooling:** Cool foods as quickly as possible. FSIS guidelines require that foods be cooled from 140 °F – 70 °F within two hours and from 70 °F – 40 °F within an additional four hours. This is a total of six hours. If food is not cooled from 140 °F – 70 °F within 2 hours, the food

must be reheated to 165 °F for 15 seconds and the cooling process started over. Take actions to speed the cooling process such as dividing food into smaller portions, using ice water baths, using an ice paddle, and stirring.

- **Reheating:** Reheat all leftover foods to 165 °F for 15 seconds within two hours.
- **Transporting:** Transport cold foods cold at 40 °F or below, and hot foods hot at 140 °F or above.

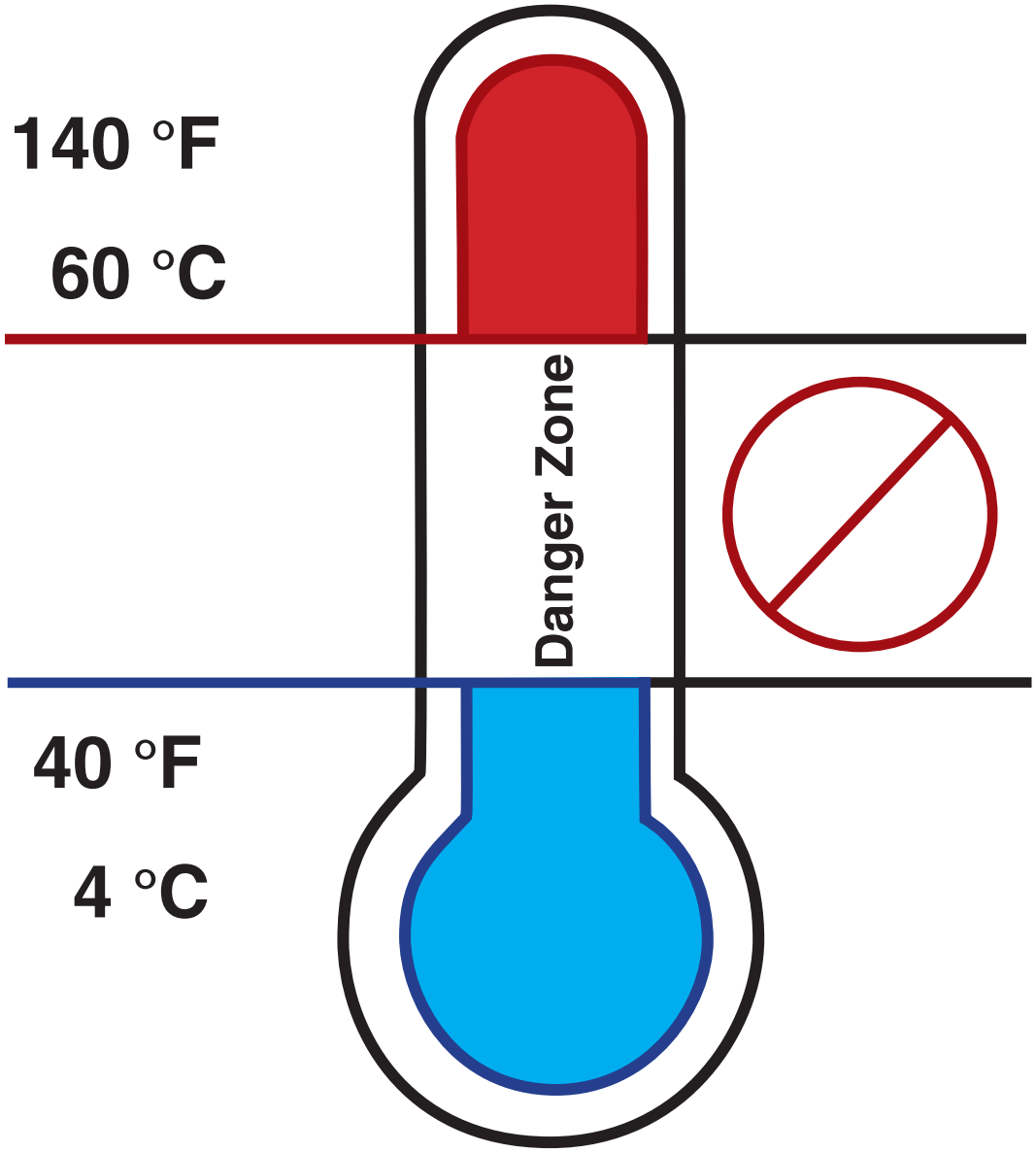
Remember, follow state or local health department requirements.

Activity: Temperature Danger Zone "Keep Foods Out"

Instructions: It is important to keep foods out of the temperature danger zone, 40 °F to 140 °F. List some strategies for keeping cold foods below 40 °F and hot foods above 140 °F.

40 °F or below	140 °F or above

Temperature Danger Zone Poster



Cooking Foods
Fact Sheet

Introduction
Cooking is a critical control point, or a point at which reaching appropriate internal temperatures can help ensure that a food is safe to eat. Child care employees must know the proper temperatures for cooking food, monitor internal cooking temperatures, and record cooking temperatures.

Here Are the Facts
The appropriate temperature for cooking foods is based on temperatures that will kill harmful bacteria associated with that specific food. That is why poultry products have a higher cooking temperature than beef. It is important to know the temperature requirements for menu items used in your child care operation.

Application
There are four key internal temperatures in child care.

- 140 °F: Ready-to-eat foods taken from a commercially processed, hermetically sealed package; vegetables (frozen or canned); precooked ham (to reheat)
- 145 °F: Whole roasts, chops, or steaks of beef, pork, veal, or lamb; (uncooked) ham
- 160 °F: Ground meats, such as hamburger, ground pork, or sausage; egg dishes; fish sticks or nuggets
- 165 °F: Poultry, stuffing, stuffed meats, stuffed pasta, casseroles, leftovers

Monitor cooking temperatures.

- Check food temperatures with clean, sanitized, and calibrated thermometer.
- Avoid inserting the thermometer into pockets of fat or near bones when taking internal temperatures.
- Take at least two internal temperatures from each batch of food.
- Insert thermometer into the thickest part of the food, which usually is in the center.
- Record the temperature and the time the temperature was checked.

Take corrective action if appropriate temperatures are not met, which usually means that cooking is continued until the temperature at the thickest part of the food product is appropriate.

Remember, follow state or local health department requirements.

Reheating Foods

Fact Sheet

Introduction

Reheating is a critical control point, or a point at which reaching appropriate internal temperatures can help ensure that a food is safe to eat. Child care employees must know the proper temperature for reheating food, monitor the reheating process, and record temperatures of reheated foods.

Here Are the Facts

The USDA Food Safety Inspection Service (FSIS) guidelines require that all leftover foods or foods that have a pre-cooked or leftover food as an ingredient is reheated to 165 °F for 15 seconds within 2 hours.

Application

Reheat foods using proper procedures.

- Reheat the following foods to 165 °F for at least 15 seconds within 2 hours:
  - Any food that has been cooked and cooled, and will be reheated for hot holding,
  - Leftovers reheated for hot holding,
  - Products made from leftovers, such as soup or casseroles, and
  - Precooked, processed foods that have been previously cooled.
- Reheat foods rapidly. When reheating food, the total time the temperature of the food is between 40 °F and 140 °F cannot exceed two hours.
- Serve reheated food immediately or place in appropriate hot holding unit.

Monitor reheating process.

- Check food temperatures with a clean, sanitized, and calibrated thermometer.
- Take at least two internal temperatures from each batch of food that is reheated.
- Insert thermometer into the thickest part of the food, which usually is in the center.
- Record the temperature and the time the temperature is checked.

Take corrective action if appropriate temperatures of the food are not met.

- Continue reheating until required temperature is reached, up to a maximum of two hours.
- Discard food if reheating temperature is not met within two hours.

Remember, follow state or local health department requirements.

Lesson 4: Chill

Lesson Objectives 73

Receiving Deliveries Sample Standard Operating Procedure 75

Storing Foods Fact Sheet 77

Activity: *Storing Items on Refrigerator Shelves* 79

Controlling Time and Temperature During Preparation Fact Sheet 81

Thawing Foods Fact Sheet 83

Holding Cold Foods Fact Sheet 85

Cooling Foods Fact Sheet 87

Lesson Objectives

Instructions: Use spaces provided under each objective to take notes you may find useful in your child care program.

1. **Describe methods for maintaining food temperatures when receiving, storing, preparing, and cold holding of food.**

2. **Describe the process for cooling food and handling leftovers.**

Receiving Deliveries

Sample Standard Operating Procedure

PURPOSE: To ensure that all food is received fresh and safe when it enters the child care operation and to transfer food to proper storage as quickly as possible.
SCOPE: This procedure applies to child care employees who handle, prepare, or serve food.
KEY WORDS: Cross Contamination, Temperatures, Receiving, Holding, Frozen Goods, Delivery

INSTRUCTIONS:

1. Train child care employees on using the procedures in this SOP.
2. Follow state or local health department requirements.
3. Schedule deliveries to arrive at designated times during operational hours.
4. Post the delivery schedule, including the names of vendors, days and times of deliveries, and the driver's name (if possible).
5. Establish a rejection policy to ensure accurate, timely, consistent, and effective refusal and return of rejected goods.
6. Organize freezer and refrigeration space, loading docks, and store rooms before deliveries.
7. Gather product specification lists and purchase orders, temperature logs, calibrated thermometers, pens, flashlights, and clean loading carts before deliveries. Refer to the *Using and Calibrating Thermometers* SOP.
8. Keep receiving area clean and well lighted.
9. Do not touch ready-to-eat foods with bare hands.
10. Determine whether foods will be marked with the date arrival or the "use by" date and mark accordingly upon receipt.
11. Compare delivery invoice against products ordered and products delivered.
12. Transfer foods to their appropriate locations as quickly as possible.

MONITORING:

1. Inspect the delivery truck when it arrives to ensure that it is clean, free of putrid odors, and organized to prevent cross contamination. Be sure refrigerated foods are delivered on a refrigerated truck.
2. Check the interior temperature of refrigerated trucks.
3. Confirm vendor name, day and time of delivery, as well as driver's identification before accepting delivery. If driver's name is different from what is indicated on the delivery schedule, contact the vendor immediately.
4. Check frozen foods to ensure that they are all frozen solid and show no signs of thawing and refreezing, such as the presence of large ice crystals or liquids on the bottom of cartons.
5. Check the temperature of refrigerated foods.
   a. For fresh meat, fish, and poultry products, insert a clean and sanitized thermometer into the center of the product to ensure a temperature of 40 °F or below. The temperature of milk should be 40 °F or below.

   b. For packaged products, insert a food thermometer between two packages being careful not to puncture the wrapper. If the temperature exceeds 40 ºF, it may be necessary to take the internal temperature before accepting the product.
6. Check dates of milk, eggs, and other perishable goods to ensure safety and quality.
7. Check the integrity of food packaging.
8. Check the cleanliness of crates and other shipping containers before accepting products. Reject foods that are shipped in dirty crates.

CORRECTIVE ACTION:

1. Retrain any child care employee found not following the procedures in this SOP.
2. Reject the following:
   - Frozen foods with signs of previous thawing
   - Cans that have signs of deterioration, such as swollen sides or ends, flawed seals or seams, dents, or rust
   - Punctured packages
   - Foods with out-dated expiration dates
   - Foods that are out of safe temperature zone or deemed unacceptable by the established rejection policy

VERIFICATION AND RECORD KEEPING:

Record the temperature and the corrective action on the delivery invoice or on the Receiving Log. The child care manager will verify that child care employees are receiving products using the proper procedure by visually monitoring receiving practices during the shift and reviewing the Receiving Log at the close of each day. Receiving Logs are kept on file for a minimum of 1 year.

DATE IMPLEMENTED: _____ **BY:** _____

DATE REVIEWED: _____ **BY:** _____

DATE REVISED: _____ **BY:** _____

Storing Foods

Fact Sheet

Introduction
Proper storing of food will help maintain food quality and safety. Child care employees who store food play an important role in a child care facility by following proper storing practices.

Here Are the Facts
Food is a perishable product so it is important to store it at the appropriate temperature for an appropriate time. Dry storage areas should be maintained at 50 °F – 70 °F, refrigerated storage areas should be maintained at 40 °F or below, and frozen storage areas should be maintained at 0 °F or below.

Application
Follow good storage practices.

- Keep storage areas clean.
- Store all food and supplies at least 6 inches off the floor.
- Keep food in original containers or labeled containers approved for food storage.
- Label all food with the name and delivery date.
- Use the First In, First Out (FIFO) method of inventory rotation. Dating products and storing new products behind old products will make FIFO easier.
- Store chemicals in a separate area from foods, preferably in a locked room or cabinet.
- Check products for damage or spoilage, and discard products that show signs of damage or spoilage.
- Avoid cross contamination and cross contact.
- Store ready-to-eat foods in the refrigerator separately from raw foods. If multiple products are stored in one refrigerator, place them in the following order:
  - Highest shelf
    - Ready-to-eat foods
    - Whole meat
    - Ground meat
  - Lowest shelf
    - Poultry

Monitor storage practices.

- Check storage areas for cleanliness.
- Check product expiration dates.
- Check temperatures of all storage areas a minimum of once a day.
- Record the temperatures and the time temperatures are taken for all storage areas.

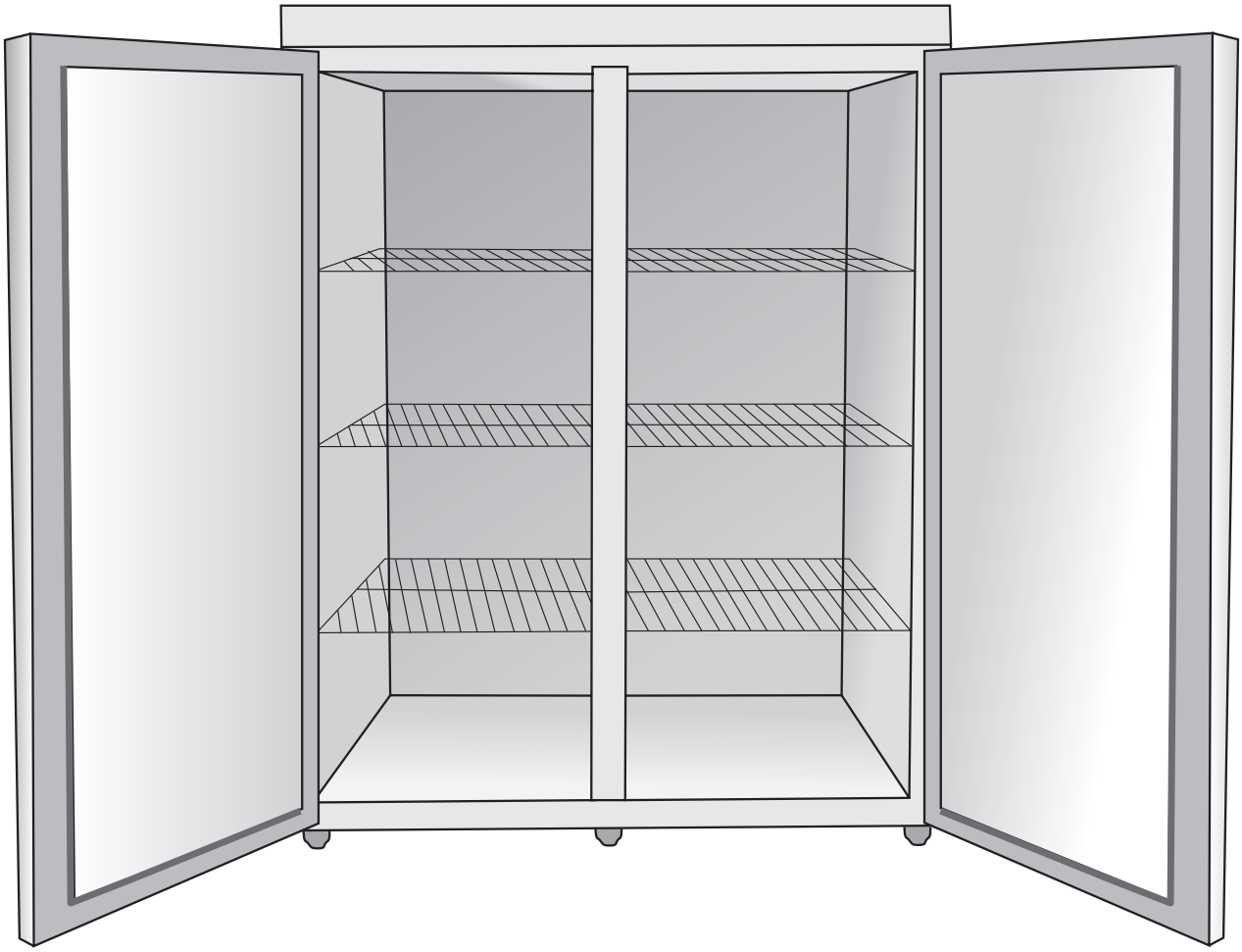
Take corrective action if appropriate storage practices are not followed.

- Clean storage areas.
- Dispose of expired foods.
- Report to the supervisor if storage areas are not at the appropriate temperature.

Remember, follow state or local health department requirements.

Activity: Storing Items on Refrigerator Shelves

Instructions: Place food items on the appropriate shelf for storage.



A. Milk
B. Cake
C. Raw Chicken
D. Ground Beef
E. Raw Carrots
F. Roast

Controlling Time and Temperature During Preparation

Fact Sheet

Introduction

Preparation is an important step in the flow of food. Child care employees can use good food handling practices during preparation to ensure that food temperatures are controlled and the time that foods are in the temperature danger zone is minimized.

Here Are the Facts

Bacteria grow most rapidly in the temperature danger zone, between 40 °F and 140 °F.

Application

Limit the time that foods are in the temperature danger zone during preparation.

- Pre-chill ingredients for cold foods, such as sandwiches, salads, and cut fruits, to 40 °F or below before combining with other ingredients.
- Prepare foods as close to serving times as the menu will allow.
- Prepare food in small batches. For example, when assembling deli sandwiches, remove only enough meat and cheese to prepare 25 sandwiches. Return the sandwiches to the refrigerator, and then remove enough meat and cheese to prepare another 25 sandwiches.
- Limit the time for preparation of any batches of food so that the ingredients are not at room temperature for more than 30 minutes before cooking, serving, or returning to the refrigerator.
- Chill all cold foods as quickly as possible.

Monitor the time and temperatures of foods during preparation.

- Use a clean, sanitized, and calibrated thermometer (preferably a thermocouple) to check temperatures.
- Take at least two internal temperatures from each pan of food at various stages of preparation.
- Monitor the amount of time that food is in the temperature danger zone. It should not exceed 4 hours. Remember the 4 hour period is not just for preparation. By the end of the 4-hour period, the food would need to be served, consumed or discarded.

Take corrective action to make sure that time and temperature are maintained during preparation.

- Begin the cooking process immediately after preparation for any foods that will be served hot.
- Cool rapidly any ready-to-eat foods or foods that will be cooked at a later time.
- Return ingredients to the refrigerator if the anticipated preparation time is expected to exceed 30 minutes.
- Discard food held in the temperature danger zone for more than 4 hours. Again this period would also include service and consumption, in addition to preparation.

Remember, follow state or local health department requirements.

Thawing Foods
Fact Sheet

Introduction
Thawing frozen food correctly is important for keeping food safe to eat. USDA's Food Safety and Inspection Service (FSIS) guidelines state that the temperature of food should not exceed 40 °F during the thawing process. Child care foodservice employees must plan ahead so that they can use an appropriate method for thawing.

Here Are the Facts
Freezing food keeps most bacteria from multiplying, but it does not kill them. If food is allowed to enter the temperature danger zone of 40 °F – 140 °F, bacteria will grow rapidly. There are four acceptable methods for thawing food: in a refrigerator, under cold running water, in a microwave, or as part of the cooking process.

Application
Use good production planning to determine the quantity of food needed and when food should be thawed in advance. Indicate preparation such as thawing that needs to be done on the daily production record.

Use one of the four safe methods when thawing frozen foods.

1. Thaw frozen food in the refrigerator at a temperature at or below 40 °F.
   - Place packages of frozen food in a pan so that juices cannot drip on other foods.
   - Change the drip pan when liquid is visible in the pan.
   - Allow adequate time for thawing. A small quantity of food may thaw in one day, while a large product such as a turkey may take several days.
2. Thaw frozen food completely submerged under clean, drinkable running water.
   - The water temperature should be 70 °F or below.
   - The water should be running fast enough to knock off loose particles.
   - Ready-to-eat foods should never be allowed to rise above 40 °F.
   - Foods that will be cooked should never be allowed to rise above 40 °F for more than 4 hours, including thawing and cooking time or thawing and chilling time.
3. Thaw frozen food in a microwave oven only if it will be cooked immediately.
4. Thaw frozen food as part of the cooking process. This method typically is used for products such as frozen patties, nuggets, pizza, lasagna, chili, soup, and vegetables.

Monitor thawing process for frozen foods.

- Check temperature of food during the thawing process using an infrared thermometer or a calibrated stemmed thermometer.
  - For thawing as part of the cooking process, temperatures should be checked as they would be for cooking. Food should be heated to the internal cooking temperature within 2 hours.
  - For refrigerator thawing, check the temperature at the end of the thawing process. If the refrigeration unit is working properly, the food will never exceed 40 °F.
  - For microwave thawing, food should be cooked immediately and the temperature checked at the end of the cooking process, which should not exceed 2 hours.
  - For thawing in running water, check the temperature of the food every 30 minutes.
- Check food temperatures with a clean, sanitized, and calibrated thermometer.
- Check the water temperature with a clean, sanitized, and calibrated thermometer if cold running water is used for thawing.
- Record the temperature and the time the temperature is checked.

Take corrective action if appropriate thawing temperature of the food is not met.

- If water temperature is warmer than 70 °F from the tap, use another thawing method.
- Record corrective actions taken.

Remember, follow state or local health department requirements.

Holding Cold Foods

Fact Sheet

Introduction
Holding is a point at which maintaining proper temperatures can help ensure that a food is safe to eat. Cooks and servers must know the proper temperature for holding food, monitor the holding process, and record temperatures of foods during holding.

Here Are the Facts
USDA's Food Safety and Inspection Service (FSIS) guidelines require that all cold foods be maintained at 40 °F or below. When temperatures of food are above 40 °F, they are in the temperature danger zone, and bacteria are growing at a rapid pace. Research has shown that inadequate cold holding temperatures are a problem in many child care operations.

Application
Hold cold foods at 40 °F or below.

- Pre-chill ingredients for items to be served cold.
- Schedule food production to minimize the time that food is maintained on the serving line.
- Use batch preparation for cold items to minimize the time that ingredients and completed foods are at room temperature.

Monitor holding process for cold foods.

- Check temperature of all cold holding units by placing a calibrated thermometer in the warmest part of the holding unit. The unit should be 40 °F or below.
- Check internal temperatures of cold food with a clean, sanitized, and calibrated thermometer.
- Take at least two internal temperatures from each batch of food during holding.
- Insert thermometer into the thickest part of the food, which usually is in the center.
- Record the temperature, the date, and the time the temperature was taken.

Take corrective action if appropriate holding temperature of cold food is not met.

- Rapidly chill food using an appropriate cooling method if the temperature is found to be above 40 °F and the last temperature taken was 40 °F or below and taken within the last 2 hours.
- Place food in shallow containers (no more than 2 inches deep) and uncovered on the top shelf in the back of the walk-in or reach-in cooler.
- Use a quick chill unit, such as a blast chiller.
- Stir the food in a container placed in an ice water bath.
- Separate food into smaller or thinner portions.
- Repair or reset holding equipment before returning the food to the unit, if applicable.
- Discard food if it cannot be determined how long the food temperature was above 40 °F.
- Record corrective actions taken.

Remember, follow state or local health department requirements.

Cooling Foods

Fact Sheet

Introduction

Cooling is a critical control point, or a point at which reaching proper temperatures within an appropriate time period can help ensure that a food is safe to eat. Cooks must know the proper temperatures for cooling food, monitor the temperature of food as it cools, and record cooling temperatures.

Here Are the Facts

Food has to go through the temperature danger zone (40 °F – 140 °F) during the cooling process. Bacteria grow rapidly in the temperature danger zone, so the time that food can be in that temperature range has to be minimized to limit bacterial growth. Important cooling temperatures and times include the following:

1. Hot foods must be cooled from 140 °F – 70 °F within 2 hours.
2. Hot foods must be cooled from 70 °F – 40 °F in an additional 4 hours.
3. Foods at room temperature (70 °F) must be cooled to 40 °F within 4 hours.

Application

Cool foods to the appropriate temperature within the appropriate time.
Select a rapid cooling method to speed the cooling process.

- Place food in shallow containers no more than 2 inches deep and uncovered on the top shelf in the back of a walk-in or reach-in cooler.
- Use a quick-chill unit such as a blast chiller.
- Place the container of food in an ice water bath and stir.
- Separate food into smaller or thinner portions.
- Pre-chill ingredients used for making bulk items such as salads.

Monitor cooling temperatures.

- Check food temperatures with clean, sanitized, and calibrated thermometer.
- Take the temperature of food during the cooling process frequently to make sure that the time requirements are met and to allow time for corrective action to be taken.
- Record the temperature and the time the temperature was checked on the cooling temperature log.

Take corrective actions if the temperature and time requirements are not met.

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Glossary

Adulterated : Foods which are no longer fit for human consumption as a result of spoilage, contamination, infestation, or other damage.

Allergen: A protein in a food that triggers an immune in a person who has an allergy.

Calibrated: Adjusting equipment to ensure measurements are accurate.

Cross Contamination: Cross contamination is described as being the (unintentional) transfer of pathogens from a food, person, or surface to another food during preparation or storage.

Cross Contact: Cross Contact is used to describe when an allergen is accidentally transferred from a food with the allergen to a food or surface without the allergen.

Chemical Contamination: A chemical that has been transferred to a food, person, or surface during use of that chemical.

Danger Zone: The temperature zone in which bacteria multiply rapidly; between 40 °F – 140 °F.

Food Allergy: An abnormal immune response that occurs when the body reacts to a certain food as if it is a harmful substance.

Food Contact Surfaces: A surface of equipment or a utensil with which food normally comes into contact.

Foodborne Illness: A foodborne illness is an illness that results from eating contaminated food.

Unadulteration: Not diluted or made impure, contains no substances that make it injurious to health, has not been held, packed, or produced under insanitary conditions.

Activity: Personal Hygiene Infomercial Answer Key

Personal Hygiene Infomercial	
Attire • Wear clean uniform or appropriate clothing. • Change apron when dirty. • Remove apron when going to restroom or taking out trash. **Fingernails** • Keep fingernails clean and filed. • Wear no artificial nails. • Wear no nail polish. **Jewelry** • Wear no jewelry, except for a plain ring such as wedding band with no stones.	**Wounds and Sores** • Treat and bandage wounds and sores. • Wear single-use gloves or finger cot to cover bandage. • Cover any lesions. • Wear single-use glove over bandage when working with food. **Hair** • Keep hair clean. • Wear suitable hair restraints. • Pull long hair back and restrain. **Tasting Food** • Place a small amount of food into a separate container. • Step away from exposed food and food contact surfaces for tasting. • Use a teaspoon to taste food and remove to dishroom. • Never reuse a spoon that has been used for tasting food.

Activity: How to Wash Hands Answer Key

Instructions: As you watch the video, list the steps for proper handwashing. The first one has been completed for you.

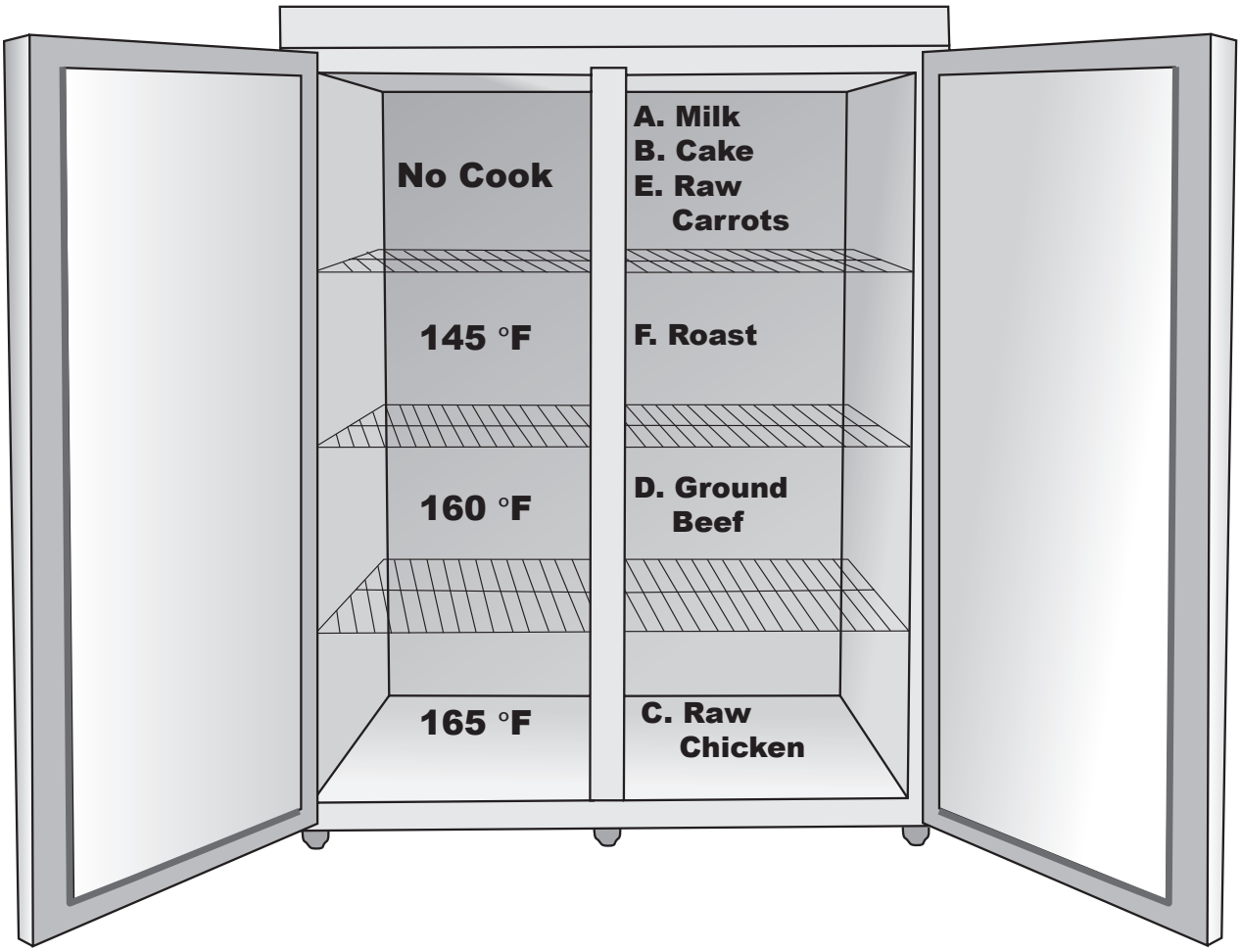
How to Wash Hands
• Wet hands and forearms with running water of at least 100 °F (as measured by a calibrated thermometer) and apply soap. • Scrub lathered hands and forearms, under fingernails, and between fingers for at least 20 seconds. Rinse thoroughly under warm running water. • Dry hands and forearms thoroughly with single-use paper towels. • Dry hands if using a warm air hand dryer. • Turn off water using paper towels. • Use paper towel to open door when exiting the restroom.

Activity: Steps in Cleaning and Sanitizing for Manual Dishwashing Answer Key

Instructions:
As the instructor reviews the cleaning and sanitizing for manual dishwashing steps, fill in the correct answer.

SINK 1	**Step 1: Wash** • Cleaning surfaces with warm soapy water to remove all debris and grease film. • The water should be at or above 110 °F. • Quantity of detergent should be based on the manufacturer's instructions. • Scrape and rinse dishes when needed. • Pre-soak flatware and heavily soiled items. • Cleaning may require vigorous rubbing with a brush or cloth to loosen and remove any visible food particles. • Check wash temperatures periodically.
SINK 2	**Step 2: Rinse** • Clean water to remove all of the detergent. • Use clean, hot water (110 °F) to rinse away traces of food, debris, and detergent. • Change water if it gets too cold or shows signs of food, debris, or detergent.
SINK 3	**Step 3: Sanitize** • Sanitizing can be done with a chemical sanitizing solution or with hot water. • Chemical sanitizing solution ▪ The concentration or parts per million (ppm) needs to be at the proper level recommended by the manufacturer and should be tested with test strips. ▪ Change sanitizing solutions when they are visibly dirty or when concentrations drop below the required level. • Hot water solution ▪ Water should be maintained at 171 °F or above. ▪ Submerse dishes in hot water for at least 30 seconds for adequate sanitizing.

Activity: Storing Items on Refrigerator Shelves Answer Key



Activity: Using Thermometers in Child Care Answer Key

Instructions: Fill in the blanks with the correct answers as they are provided during the video.

1. What are the five common types of thermometers?

   infrared , bimetallic stemmed , digital ,

   thermocouple/thermister , single use

2. What cooking temperatures were recommended for the following foods:

   Ready-to-eat foods 140 °F

   Whole Pork 145 °F

   Ground beef 160 °F

   Poultry 165 °F

   Soups/Casseroles 165 °F

   Reheated foods 165 °F

3. When measuring temperatures of roasts it is important to insert the thermometer in the thickest part (center) of the roast and to avoid putting the thermometer next to bone , gristle , or fat .

4. It is important to document temperatures. When you do, you should include the date , time , temperature , and initials .

5. Thermometers should be properly cleaned , sanitized , and stored .

Activity: Calibrating Thermometers in Child Care Using Ice Water Method Answer Key

Instructions: Fill in the blanks with the correct answers as they are provided during the video.

What tools or supplies did you observe being used?

1. Container
2. Ice
3. Cold water
4. Thermometer
5. Calibration tool and wrench

What steps were used to calibrate the thermometer using the ice water method?

1. Fill a container with crushed ice.
2. Add water to within 1 inch of the top of container.
3. Stir ice and water mixture.
4. Let sit for one minute(s).
5. Place thermometer in container so that the sensing area is completely submerged.
6. Let the thermometer stay in the ice water mixture for 30 seconds.
7. If needed, calibrate the thermometer by rotating the wrench until the thermometer reads 32 °F.

Activity: True or False?
Identify Cooking Temperatures Answer Key

1. A bimetallic stemmed thermometer is tip sensitive. **False; It has a sensing area from the tip to the dimple.**
2. Crushed ice with water is used for calibrating thermometers. **True**
3. The ice-point method is the only acceptable way to calibrate a thermometer. **False; Thermometers also can be calibrated with boiling water.**
4. Thermometers do not need to be calibrated more often than weekly. **False; If they are dropped or used for measuring temperature extremes, they need to be calibrated more frequently.**
5. Ground meat must be cooked to 160 °F. **True**
6. Poultry needs to be cooked to 160 °F. **False; Poultry needs to be cooked to 165 °F.**
7. Pre-cooked entrees need to be cooked to 145 °F. **False; They need to be cooked to 140 °F.**
8. Leftovers should be reheated to 155 °F. **False; They must be reheated to 165 °F for 15 seconds.**
9. Food must be reheated to 165 °F for 15 seconds within 2 hours. **True**
10. Casseroles should be cooked to 165 °F. **True**
11. Vegetables should be cooked to 140 °F. **True**
12. A thermometer is a food contact surface. **True**

Activity: Temperature Danger Zone "Keep Foods Out" Answer Key

40 °F or below	140 °F or above

• Receive refrigerated foods at 40 °F or below
• Maintain refrigerator temperatures at 40 °F or below
• Maintain milk coolers at 40 °F or below
• Prepare salads, deli sandwiches, and other foods in batches
• Serve cold food at 40 °F or below
• Store cold foods appropriately at service areas
  ▪ Refrigerators
  ▪ Milk coolers
  ▪ Refrigerated serving lines
  ▪ Ice around food
  ▪ Ice packs
	Cook food to appropriate temperatures
	• Cook food in batches near serving time
	• Hold food in holding cabinets or insulated containers at 140 °F or above
	• Serve food from heated serving lines

Wrap-up Activity: "Let's Make a Quilt" Answer Key

- Keep cold food cold 40 °F or lower
- Thaw food properly
- Cool food properly
- Control time and temperature during food preparation
- Keep food out of the danger zone
- Hold food properly
- Receive food correctly
- Serve cold foods cold
- List the cooling procedure

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